



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/849,884	05/21/2004	Tsuyoshi Kaneko	119593	8590
25944	7590	07/27/2005	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			SANDVIK, BENJAMIN P	
			ART UNIT	PAPER NUMBER
			2826	
DATE MAILED: 07/27/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/849,884	KANEKO, TSUYOSHI	
	Examiner	Art Unit	
	Ben P. Sandvik	2826	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 1-8, 10-13 and 17-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 9 and 14-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of a method of manufacturing a bump structure and embodiment 1 in the reply filed on 6/17/05 is acknowledged. The traversal is on the ground(s) that the case could be examined without serious burden to the examiner. This is not found persuasive because of the separate classifications of the inventions and multiple embodiments.

The requirement is still deemed proper and is therefore made FINAL.

Claims 1-8, 10, 11, and 17-20 withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention and embodiment, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 6/17/05.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawakita et al (U.S. Patent #5477087), in view of Furusawa et al (U.S. PG Pub #20020151161).

With respect to **claims 9 and 14-16**, Kawakita teaches forming a protruding part precursor (Fig. 1, 15), hardening the protruding part precursor by applying energy to form a protruding part (Col 3 Ln 29-30), forming a conductive layer so as to cover the protruding part (Fig. 1, 17), and that the precursor is a thermosetting resin, the energy being heat, as set forth in claim 16 (Col 3 Ln 29-30).

Kawakita does not teach that the protruding part precursor is formed by forming a liquid-repelling part with a liquid-repelling characteristic for droplets and a liquid-attracting part that is more wettable than the liquid-repelling part for the droplets on an upper surface of an insulating layer, and discharging the droplets onto the liquid-attracting part to form a protruding part precursor; that before the protruding part precursor is formed, a liquid repelling treatment being carrier out on a region adjacent to a region in which the protruding part precursor is formed, as set forth in claim 14; or that droplets are discharged using an ink jet method, as set forth in claim 15.

Furusawa teaches forming a liquid-repelling part with a liquid-repelling characteristic for droplets (Fig. 3, 11b) and a liquid-attracting part that is more wettable than the liquid-repelling part for the droplets on an upper surface of a substrate (Fig. 3, 11a), and discharging the droplets onto the liquid-attracting part

to form a protruding part (Paragraph 50, "ink jet method"); that before the protruding part precursor is formed (Fig. 4, 14), a liquid repelling treatment is carrier out on a region adjacent to a region in which the protruding part precursor is formed (Fig. 3), and that the droplets are discharged using an ink jet method (Paragraph 50). It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the protruding part precursor of Kawakita by providing liquid-repelling parts to outline a position for a protruding part as taught by Furusawa on the insulating layer (Fig. 1, 13) of Kawakita in order to form a conductive pattern with high accuracy and simple methods.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

Subject to the following paragraph, a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed. A claim in dependent form shall be construed to incorporate by reference all of the limitations of the claim which it refers.

Claims 12 and 13 are depending from independent claims that are drawn to a non-elected species; hence these claims are also withdrawn from consideration.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ben P. Sandvik whose telephone number is (571) 272-8446. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (571) 272-1915. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2826

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NATHAN J. FLYNN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

bps